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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/598,312

Applicant(s)

HAAG ET AL.

Examiner

ELIZABETH ARNADE

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14-19 and 23-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-19 and 23-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date 8/24/2006
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-12, 14-19, and 23-27 are pending as amended on 6/30/2009, claims 13 and 20-22 having been canceled.

Response to Arguments

2. Applicant's arguments, see page 10, filed 6/30/2009, with respect to the rejection(s) of claim(s) 1-5 under 35 U.S.C. 103(a), have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made under 35 U.S.C. 103(a) over US4495744, Carl, in view of WO94/29541, Breuning.

Applicant's arguments with respect towards claims 17-19, 21-23 and 25 under 35 U.S.C. 102(b), have been fully considered but they are not persuasive. Applicant argues that Breuning does not teach the limitation of 'a plurality of adjacently arranged displacers, comprising plastic balls or plastic shells, for being pressed into a semi-set concrete layer'. Applicant argues that the Breuning reference is not suitable for being pressed into a further layer of concrete (page 10, line 6). The examiner notes that claim 17 recites functional capability of Applicant's invention, without citing any additional structural features not taught by Breuning as discussed previously. The Courts have ruled that in such cases where the claimed and prior art devices and/or products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, claimed properties or functions are presumed to be inherent. As such, the functional limitation of, 'for being pressed into a

semi-set concrete layer' in the above-listed claim 17 is deemed unpatentable in view of Breuning. *In re Best*, 562 F.2d at 1255, 195 USPQ at 433. See also *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

Additionally, applicant argues that Breuning does not teach that the structure is offset or suggests arrangement of offset sides (pg 10, lines 12-14). The examiner notes that Breuning does teach the limitation of claim 17 wherein the limitation reads wherein "the module is produced from open lattice constructions that respectively feature an essentially triangular rod construction on the sides thereof, and the lateral rod constructions on one of the sides are offset relative to the other side by approximately half the width of the triangular rod construction".

As to the limitations of claim 17, the examiner interprets the lattice open toward one side to be the lower mesh (12) wherein the side filigree beams (21) read on "the lattices of the lattice-work situated adjacent to this open side" which "are inclined relative to a lattice of the lattice-work situated opposite of this open side" by a ninety degree/perpendicular angle. The examiner interprets "a lattice of the lattice-work situated opposite of this open side" to be the upper mesh (22) lattice disclosed by Breuning (Fig. 4-6). The side filigree beams which are seen in Fig. 4 and 5 in an essentially triangular rod construction read on the limitation of "essentially triangular rod construction on sides thereof". The examiner also interprets the lower mesh (12) of Breuning '514 consisting of laterally spaced crossing bars/rods to be 'the lateral rod constructions' of claim 17 such that "the lateral rod construction on one of the sides is offset relative to the other side" by the next crossing bar/rod by a width and this width is

approximately half the width of the triangular construction (Fig. 4). Therefore as interpreted the prior art of Breuning reads on the limitations of the claim in full.

Double Patenting

3. Applicant is advised that should claim 16 be found allowable, claim 27 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 17-19 and 23-25 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat.

App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 17 recites the broad recitation 90 to 135 degrees, and the claim also recites 95 to 120 degrees which is the narrower statement of the range/limitation.

Claim 17 recites the limitation "the modules" (plural) in line 10. There is insufficient antecedent basis for this limitation in the claim.

Claim 17 recites the limitation "the lateral rod constructions" in lines 11-12. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 17-19, 23, and 25 rejected under 35 U.S.C. 102(b) as being anticipated by WO 94/29541, Breuning.

As for claim 17, Breuning teaches a module comprising a plurality of adjacently arranged displacers, comprising plastic balls or plastic shells, wherein the plurality of adjacently arranged displacers is respectively arranged in a lattice-work of rods, and the lattice-work is open toward one side, wherein lattices of the lattice-work situated adjacent to this open side are inclined relative to a lattice of the lattice-work situated opposite of this open side by an angle of approximately 90 degrees to 135 degrees, preferably 95 degrees to 120 degrees characterized in that the module is produced from open lattice constructions that respectively feature an essentially triangular rod construction on the sides thereof, and the lateral rod constructions on one of the sides are offset relative to the other side by approximately half the width of the triangular rod construction (pg 3, lines 19-23; pg 5, lines 3-9; Fig 1-8).

The examiner notes that the limitation in claim 17 wherein it states, 'for producing concrete elements, particularly semi-finished concrete products, or concrete slabs' is regarded as functional language directed towards intended use and does not add any structural limitations to the claim. Applicant is reminded that a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987)

Similarly, the limitation in claim 17 wherein it states, 'for being pressed into a semi-set concrete layer' is regarded as functional language. The examiner notes that in order to be given patentable weight, a functional recitation must be expressed as a

"means for" performing the specified function, as set forth in 35 USC 112, 6th paragraph, and must be supported by recitation in the claim of sufficient structure to warrant the presence of the functional language. See *In re Fuller*, 1929 C.D. 172; 388 O.F.279.

Applicant is further reminded that in claims drawn to an apparatus, the invention must be defined in a way such that it is *structurally* distinguishable from the prior art. "[A]pparatus claims cover what a device *is*, not what a device *does*." See *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). Moreover, while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997).

As to the limitations of claim 17, the examiner interprets the lattice open toward one side to be the lower mesh (12) wherein the side filigree beams (21) read on "the lattices of the lattice-work situated adjacent to this open side" which "are inclined relative to a lattice of the lattice-work situated opposite of this open side" by a ninety degree/perpendicular angle. The examiner interprets "a lattice of the lattice-work situated opposite of this open side" to be the upper mesh (22) lattice disclosed by Breuning (Fig. 4-6). The side filigree beams which are seen in Fig. 4 and 5 in an essentially triangular rod construction read on the limitation of "essentially triangular rod construction on sides thereof". The examiner also interprets the lower mesh (12) of Breuning consisting of laterally spaced crossing bars/rods to be the lateral rod constructions of claim 17 such that "the lateral rod construction on one of the sides is

offset relative to the other side" by the next crossing bar/rod by a width and this width is approximately half the width of the triangular construction (Fig. 4). Therefore as interpreted the prior art of Breuning reads on the limitations of the claim in full.

As for claims 18-19, 23 and 25, Breuning teaches that the module is characterized in that at least a part of the displacers protrudes from the lattice-work (i.e. the plastic balls rest on top on the lower lattice mesh and therefore are interpreted as protruding from the lower lattice mesh); characterized in that the modules are produced from welded wire mesh sections that are cut to size, comprising wire mesh arrangements with definite dimensions, by respectively bending a lattice-work and caging the displacers in the thusly bent lattice-work; characterized in that the modules comprise shells; characterized in that the displacers are downwardly open (pg 3, lines 19-23; pg 5, lines 3-9; Fig 4-8).

The examiner interprets the "filigree beam welded to the lower mesh and the upper mesh" of Breuning (pg 5, line 8) to read on the welded wire mesh sections in claim 19. The filigree beams which are bent into an essentially triangular rod construction located on the sides as seen in Fig 4, 5 and 8 of Breuning, are interpreted to read on the bent lattice-work of claim 19.

The examiner interprets the hollow plastic bodies of the prior art to read on claim 23 as the hollow plastic body is in itself a shell.

The examiner interprets the displacers/hollow plastic bodies of Breuning to read on claim 25 as being open since they are positioned in the apparatus wherein there are open spaces in all directions of the hollow bodies and downward is relative depending

on how the support itself is rotated such that the hollow bodies are always "downwardly open".

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 24 rejected under 35 U.S.C. 103(a) as being unpatentable over Breuning as applied to claim 17 above, and further in view of WO99/64693, Oster. Citations to Oster are made in view of the European Patent Office's English web translation. See attached documentation.

Breuning teaches a module as detailed above in claim 17.

Breuning does not expressly disclose that the displacers have a flat or flattened upper side/or lower side.

Oster teaches a closely related invention of a module for producing concrete elements comprising a plurality of adjacently arranged displacers comprising balls or shells (pg 1, paragraph 2; Fig. 1-3) wherein the displacers have a flat or flattened upper side/or lower side (Fig. 6; pg 1, paragraph 7).

It would be obvious for one of ordinary skill in the art at the time the invention was made to include the flattened sides of Oster with the displacers of Breuning. The

rationale is the motivation provided by Oster in that to improve handling of the displacers and/ or minimize concrete consumption, the displacers may be provided with flattened sides (paragraph 7).

8. Claims 1-16 and 26-27 rejected under 35 U.S.C. 103(a) as being unpatentable over US4495744, Carl, in view of WO94/29541, Breuning.

As for claim 1, Carl teaches a method for producing concrete elements (Abstract), the method comprising: filling a first layer of concrete mass into a formwork and allowing the first layer to set, resulting in at least a semi-set first layer of concrete mass; placing a reinforcing mesh (i.e. conventional construction steel mat) onto the semi-set first layer, wherein the reinforcing mesh consists of conventional welded wire mesh (Col. 5, lines 64-67; Col. 6, lines 8-9 and 52-54); filling a second layer (i.e. further concrete layer) of concrete mass into the formwork on top of the first layer and the reinforcing mesh and allowing the second layer to set, resulting in at least a semi-set second layer of concrete mass (Col. 6, lines 57-58); pressing modules comprising a plurality of adjacently arranged displacers, the displacers comprising one of plastic balls or plastic shells (2), into the semi-set first layer; allowing the mass to set and removing the resulting semi-finished product from the formwork (Col. 6, lines 51-58; Fig. 12).

The examiner interprets the teaching of Carl wherein the first layer and second layer (i.e. further layer) of poured concrete reads on claim 1 in that once the concrete is poured it is allowed to set (i.e. it immediately begins to set and therefore results in a semi-set layer).

The examiner notes that although it is not explicit in the disclosure it is implicit that the concrete is being poured into a formwork (i.e. not into thin air) and that the concrete mass is allowed to set before it is removed from the formwork. This act in itself of pouring concrete into a formwork and relieving the mass from the formwork after it is allowed to set is highly conventional and well known in the art.

Carl does not expressly disclose pressing the modules into a semi-set second layer although Carl does teach pressing the modules into a semi-set first layer as detailed above.

Absent of criticality or unexpected results, it would be obvious that one of ordinary skill in the art at the time the invention was made may press the modules into a second layer vs. first layer thus allowing for a first layer of concrete to add increased height/thickness to the concrete mass or to be embedded separately with a reinforcement element.

Carl does not expressly disclose wherein the plurality of adjacently arranged displacers is respectively arranged in a lattice-work of rods; wherein the lattice is open toward one side, the one side being downward, wherein the lattices situated adjacent to this open side are inclined relative to the lattice situated opposite of this open side by an angle of approximately 90 to 120 degrees, and wherein the modules are produced by caging the displacers in the lattice.

Breuning discloses a closely related invention of making concrete elements by filling concrete onto a module (i.e. lattice with hollow bodies, pg. 3, line 21) comprising a plurality of adjacently arranged the displacers comprising one of plastic balls or plastic

shells, wherein the plurality of adjacently arranged displacers is respectively arranged in a lattice of rods, wherein the lattice is open toward one side, the one side being downward, wherein the lattices situated adjacent to this open side are inclined relative to the lattice situated opposite of this open side by an angle of approximately 90 to 120 degrees, and wherein the modules are produced by caging the displacers in the lattice (pg 3, lines 19-23; pg 5, lines 3-9; Fig 1-8). See claim 17 under USC 102 rejections for explanation of examiner's interpretations.

It would be obvious to one of ordinary skill in the art at the time the invention was made to include the module of Breuning in place of the modules of Carl. The motivation is the rationale provided by Breuning in that it allows for both a savings in time and materials (Abstract) and allows for a more accurate, stable and high quality product to be obtained (pg. 2, lines 20-21).

As for claim 2, Carl teaches a method for producing concrete elements (Abstract), comprising the steps: placing reinforcing elements comprising lattice-like reinforcing elements (i.e. reinforcing steel mats) into a formwork (Col. 5, lines 64-67), filling a layer of concrete mass into the formwork and allowing it to set to become a workable semi-set layer of concrete mass; pressing modules comprising a plurality of adjacently arranged displacers comprising one of plastic balls or plastic shells (2) into the semi-set layer; allowing the layer of concrete mass to set and the resulting semi-finished product is removed from the formwork (Col. 6, lines 51-58; Fig. 12).

The examiner interprets the teaching of Carl wherein the layer of poured concrete reads on claim 2 in that once the concrete is poured it is allowed to set (i.e. it immediately begins to set and therefore results in a semi-set layer).

The examiner notes that although it is not explicit in the disclosure it is implicit that the concrete is being poured into a formwork (i.e. not into thin air) and that the concrete mass is allowed to set before it is removed from the formwork. This act in itself of pouring concrete into a formwork and relieving the mass from the formwork after it is allowed to set is highly conventional and well known in the art.

As for claim 2, Carl does not expressly disclose wherein the plurality of adjacently arranged displacers is respectively arranged in a lattice-work of rods; wherein the lattice is open toward one side, the one side being downward, wherein the lattices situated adjacent to this open side are inclined relative to the lattice situated opposite of this open side by an angle of approximately 90 to 120 degrees, and wherein the modules are produced by caging the displacers in the lattice.

Breuning discloses a closely related invention of making concrete elements by filling concrete onto a module (i.e. lattice with hollow bodies, pg. 3, line 21) comprising a plurality of adjacently arranged the displacers comprising one of plastic balls or plastic shells, wherein the plurality of adjacently arranged displacers is respectively arranged in a lattice of rods, wherein the lattice is open toward one side, the one side being downward, wherein the lattices situated adjacent to this open side are inclined relative to the lattice situated opposite of this open side by an angle of approximately 90 to 120 degrees, and wherein the modules are produced by caging the displacers in the lattice

(pg 3, lines 19-23; pg 5, lines 3-9; Fig 1-8). See claim 17 under USC 102 rejections for explanation of examiner's interpretations.

It would be obvious to one of ordinary skill in the art at the time the invention was made to include the modules of Breuning in place of the modules of Carl. The motivation is the rationale provided by Breuning in that it allows for both a savings in time and materials (Abstract) and allows for a more accurate, stable and high quality product to be obtained (pg. 2, lines 20-21).

As for claims 3-5 and 10, Carl does not expressly disclose wherein the modules are produced from welded wire mesh sections that are cut to size, namely by respectively bending a lattice-work; characterized in that the modules are produced from downwardly open lattice constructions that respectively feature an essentially triangular construction on sides of the lattice-work; characterized in that the lateral rod constructions on one side of the lattice-work are offset relative to the other side of the lattice-work by approximately half the width of the triangular construction; characterized in that part of the displacers upwardly protrudes from the lattice-work.

Breuning teaches wherein the modules are produced from welded wire mesh sections that are cut to size, namely by respectively bending a lattice-work; characterized in that the modules are produced from downwardly open lattice constructions that respectively feature an essentially triangular construction on sides of the lattice-work; characterized in that the lateral rod constructions on one side of the lattice-work are offset relative to the other side of the lattice-work by approximately half the width of the triangular construction; characterized in that part of the displacers

upwardly protrudes from the lattice-work (pg 3, lines 19-23; pg 5, lines 3-9; Fig 4-8). See claims 17 and 19 under 35 USC 102 rejections for explanation of examiner's interpretations. Additionally, the examiner interprets that the hollow plastic bodies of Breuning which are placed on top of the lower mesh to be upwardly protruding from the lower mesh/ lattice (Fig. 8) and therefore read on claim 10.

It would be obvious to one of ordinary skill in the art at the time the invention was made to include the modules of Breuning in place of the modules of Carl. The motivation is the rationale provided by Breuning in that it allows for both a savings in time and materials (Abstract) and allows for a more accurate, stable and high quality product to be obtained (pg. 2, lines 20-21).

As for claim 6, Carl teaches wherein the modules comprise plastic parts (Col. 6, lines 5-8).

As for claim 7, Carl teaches wherein the modules comprise shells (Fig. 12).

As for claim 8, Carl teaches wherein the displacers have at least one of a flat upper side and/or lower side (Fig. 12).

As for claim 9, Carl teaches wherein the displacers are downwardly open (Fig 12; Col. 5, lines 46-49).

As for claim 11, Breuning does not expressly disclose that several modules are pressed into the semi-set concrete mass parallel to one another.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to press several modules into the semi-set concrete mass parallel to one another. The motivation to do so is that one may want a larger or multilayer

concrete mass to be formed in either greater width or height wherein the modules could be placed parallel in a side by side formation or stacked parallel on top of another.

As for claim 12, Carl teaches wherein the reinforcing elements (conventional construction steel mat) are interconnected in order to be fixed (Col. 6, lines 8-9; Fig. 13).

As for claim 14, Carl teaches that a space remaining between the displacers and lower reinforcing meshes is filled with concrete mass (Fig. 13; Col. 6, lines 51-58).

As for claim 15, Carl and Breuning combine to teach a semi-finished concrete product as detailed above in claims 1 and 2.

As for claims 16 and 27, Carl does not expressly disclose that the concrete product produced is additionally processed, namely with the steps that at least one additional concrete layer is applied onto the semi-finished product, wherein an uppermost concrete layer then forms an upper side of the finished concrete element, preferably a finished concrete plate.

It would be obvious to one of ordinary skill in the art at the time the invention was made to add another layer of concrete onto the semi-finished product. This would render a duplication of parts, that being a duplication of a layer of concrete. It would only take ordinary skill to duplicate parts. See *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) and MPEP 2144.04(VI).

Additionally it would be obvious to one of ordinary skill in the art to add another layer of concrete onto the semi-finished product in the event that a larger final product thickness is required.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 5,396,747 (Breuning) teaches a method for producing concrete elements by placing modules comprising a plurality of adjacently arranged displacers comprising hollow bodies or balls arranged in a lattice-work into a formwork and pouring concrete over the modules. US patent 3,930,348 (Wise) teaches concrete being poured into a formwork and wherein the concrete is relived from the formwork once it has set, solidified and gained strength to carry itself. US Patent 5,074,095 (Wilnau) teaches added reinforcing elements such as wire mesh to a concrete element. US Patent 5,797,230 (Lassen) teaches modules comprising a plurality of adjacently arranged displacers arranged in a lattice-work. US Patent (Lovett et al.) teaches adding reinforcement materials such as a welded wire mesh to a concrete element to improve structural integrity and reduce the likelihood of cracking. US Patent 4,702,048 (Millman) teaches a method of making concrete wherein concrete volume is reduced by placing void spaces into the concrete wherein these void spaces are created through the use of embedding a semi sphere containing thermoplastic material into the concrete wherein a wire reinforcement mesh may be placed adjacent the thermoplastic material. US Patent 3,213,581 (Macchi) teaches a method for making concrete elements wherein a lattice of reinforcing bars/steel rods are placed onto a formwork wherein hollow tubes are further caged into the lattice of bars/steel rods wherein concrete is poured onto the formwork and allowed to set.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIZABETH ARNADE whose telephone number is (571)270-7664. The examiner can normally be reached on M-F, 9-5 p.m., except alternate F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. A./
Examiner, Art Unit 1791

/Steven P. Griffin/
Supervisory Patent Examiner, Art
Unit 1791